

[54] **ELECTROPHORETIC DISPLAY PANEL APPARATUS AND METHODS THEREFOR**

[75] Inventors: Frank J. Di Santo, North Hills; Denis A. Krusos, Lloyd Harbor, both of N.Y.

[73] Assignee: Copytele, Inc., Huntington Station, N.Y.

[21] Appl. No.: 799,458

[22] Filed: Nov. 19, 1985

[51] Int. Cl.⁴ G09G 3/34

[52] U.S. Cl. 340/787; 340/783; 340/752; 350/267

[58] Field of Search 340/787, 788, 792, 718, 340/801, 811, 812, 813, 814

[56] **References Cited**

U.S. PATENT DOCUMENTS

3,972,040	7/1976	Hilsum et al.	340/787
4,041,481	8/1977	Sato	340/787
4,176,917	12/1979	Yasutake	340/815.04
4,266,225	5/1981	Burnett et al.	340/801
4,450,440	5/1984	White	340/787
4,574,280	3/1986	Weber	340/718
4,636,785	1/1987	Le Pesant	340/787

Primary Examiner—Gerald L. Brigance
Attorney, Agent, or Firm—Arthur L. Plevy

ABSTRACT

Electrophoretic display panel apparatus having improved alignment and contrast characteristics and methods therefor is provided in accordance with the teachings of the present invention. According to a first aspect of the invention a display panel having a plurality of rows of cathodes and a plurality of perpendicularly disposed grid conductors is provided. Each grid conductor is formed as a plurality of commonly connected parallelly disposed lines formed on an insulating fine structure to enable the thickness of each conductor and fine to be adjusted for optimum contrast characteristics and to ensure that the requisite number of intersections are provided between rows and columns even should slight misalignment therebetween occur. According to a second aspect of the instant invention the resulting display panel is mounted in a frame having connecting pads corresponding to similarly disposed pads associated with each column and row conductor within the panel formed to enable connection therebetween to be achieved. However, electrical connections for the conductive pads within the frame are provided through selectively actuatable delay means so that if misalignment between a column or row conductor and a corresponding pad within the frame occurs a signal applied to the connector pad within the frame may be delayed to correct any resulting misalignment.

43 Claims, 7 Drawing Sheets

